PATENT SPECIFICATION

Application Date: May 5, 1933. No. 13,053/33. 406,511

Complete Left: June 15, 1933.

Complete Accepted: March 1, 1934.

PROVISIONAL SPECIFICATION.

Improvements relating to Packing Cases for Bottled Goods.

I, KENNETH JAMES MARDON, of Redcliffe Lodge, Filton, in the County of Gloucester, of British Nationality, do hereby declare the nature of this invention to be as follows:—

This invention relates to packing cases for the transport of bottled goods, and is applicable to cases constructed from any suitable material including plain or corrugated cardboard, wood and metal.

The shape or construction of the case is not a feature of the invention, which consists of a horizontal perforated pad or diaphragm fitting tightly within any form of case.

The ends and sides of the diaphragm may be scored to facilitate bending, and thereby may be slightly larger than the interior of the case for the purpose of effecting side thrust—due to the arc of the curve in bending—when the diaphragm is subjected to stress, as by efforts to remove the diaphragm.

An important feature of the diaphragm is the formation by punching or otherwise, of circular holes in the diaphragm, the said holes being arranged to register accurately with the positions of any number of bottle necks or stoppers when the case is filled.

The said holes may be rendered expansive by the slotting of radial cuts which penetrate the diaphragm around the circumference of the holes, so that the stoppers of the bottles, or the necks may be pushed through the holes, when the diaphragm is forced into the case.

The segments formed by the said radial cuts about the holes, are contracted below the stoppers or the neck projections of the bottles, and provide a protection against unauthorised removal.

An alternative arrangement for securing the diaphragm at the sides or ends where the diaphragm is in close contact with the case, is effected by dishing up the borders of the diaphragm to the extent of one or two inches at right angles to the plane of the diaphragm.

The said borders are arranged to butt against the edges of doubling strips which are common in such cases and are formed during construction.

This modification of the diaphragm is otherwise arranged with a series of holes slotted with radial cuts for locking under the bottle stoppers as before described.

The safety pad or diaphragm as described is not a constructive feature of the case, per se, and is readily arranged as a fitment for large, medium or small cases in a variety of shapes.

Circular or elliptical cases may be fitted with the pad or diaphragm modified to suit the outline of the case, preserving the features of safety as before described.

Dated this 3rd day of May, 1933.

KENNETH J. MARDON.

COMPLETE SPECIFICATION.

Improvements relating to Packing Cases for Bottled Goods.

I, KENNETH JAMES MARDON, of Redcliffe Lodge, Filton, in the County of Gloucester, of British Nationality, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to packing cases for the transport of bottled goods, the cases being of wood, cardboard or other suitable material.

The improvement is not considered as referring to the construction of the case itself, but concerns the method of securing the goods by means of detachable diaphragms fitted in the upper side of the cases and rendered removable by flexing the said diaphragms.

A case of this nature has been described having an upper border of double thickness formed by turning down a broad edge of the case itself, and a permanent cardboard division having apertures fitted over the necks of the bottles is secured below the ledge so formed.

According to that invention a packing case for bottled goods is permanently closed and the case has to be damaged to remove the contents which are accessible only from the bottom of the case.

In my invention herein described, the upper edges of the cardboard case are creased and folded down inside as doubling strips, a form generally in use, and the inverted ledge so provided is utilised to secure the removable diaphragm before mentioned.

The turned down borders of the case—or doubling strips—may be substituted by a separate batten of wood or other material suitably fastened to the case.

The diaphragm or cover is holed with punched circular apertures to allow the diaphragm to pass over the bottle necks, and the said apertures may be rendered expansive by the slotting of radial cuts around the apertures to facilitate the forcing of the diaphragm over a series of container necks fitted with stoppers or capsules. The apertures thus segmented, contract automatically below the stoppers, capsules or projecting rings upon the container necks as hereinafter shewn.

An alternative arrangement of the diaphragm or cover is effected by dishing up the borders of the diaphragm to engage with the inverted ledge formed by the folded upper edges of the case before described. In this modified form of the diaphragm, the punched holes are not slotted as described for the plain diaphragm, and are arranged to fit lower upon the shoulders of the bottles as shown hereinafter in detail.

Having reference to the accompanying drawings—

Fig. 1 is a general isometric view of a cardboard case as described.

Fig. 2 is a cross section of a case shewing the modified diaphragm or cover.

Fig. 3 is a plan of the case as at Fig. 1.

Fig. 4 is a part section of the upper side of the case shewn in plan, Fig. 3.

Fig. 5 is a similar part section of the upper side of the case shewn in Fig. 2.

Referring to Fig. 1, the shell of the case 1 is turned over at 2, the strip 2^1 being doubled inside the case and riveted, or a separate doubling strip may be secured in the same position by suitable fasteners.

The strip 2^1 forms an inverted ledge at 3, below which the rectangular diaphragm or cover 4 is tightly fitted. The diaphragm is secured in place by flexing it and forcing it into the top of the case until it engages beneath the ledge. The diaphragm is removed in the same way, providing access to the goods without damage to the case.

The diaphragm has holes punched as at 5, through which the necks of the bottle containers project, the containers being held in position also by cells formed by intersecting partitions 6 shewn by dotted lines. Slots or cuts 7 are formed around the holes to facilitate the passage of the diaphragm over the bottle stoppers as further shewn in detail.

The case when of cardboard is riveted as at 8, and may be reinforced at the corners 9 with canvas or other fabric.

Openings 10 are provided in the ends of the case for convenience in handling.

When the case is made of wood, screws, nails or other fasteners are used, and the borders 2^1 are fitted as separate battens below which the diaphragm 4 is firmly held.

Fig. 2 is a cross section of a case fitted with the modified dished diaphragm 11, which is shewn fitted below the folded border 2^1. The holes 5 are of larger diameter than the slotted holes shown in Fig. 1, and are arranged to fit tightly against the shoulder of the bottle or container 12, as at 14.

The diaphragm rests upon the intersecting partitions 6 which form separate cells for the bottles.

Fig. 3 is a plan of the case shewn in Fig. 1. The diaphragm 4 is in position below the turned over border 2^1. The bottle stoppers or capsules 13 project above the holes 5. The slotted cuts 7 form segments 7^1 which are raised up under the capsule, or under a projection formed upon the bottle neck when the holes are forced over the bottle. The divisions 6 indicate the partitioned cells below the diaphragm.

Fig. 4 is a part cross section of the upper side of the case shewn in Fig. 3, and shows in greater detail the turned down border 2, 2^1. The diaphragm or cover 4 is tightly fitted below the ledge 3, and when the holes 5 are forced over the bottles, the cuts 7 permit the segments 7^1 to be lifted below the capsule or the enlarged bottle neck 13.

Fig. 5 is a part cross section of the upper side of the case indicated at Fig. 2 in which the alternative form of the diaphragm 11 is dished up to fit against the ledge 3 when fitted into position. The hole 5 is of larger diameter to allow the diaphragm to rest on the shoulders of the bottle at 14.

The diaphragm is flexed to facilitate fitting in position below the doubling strips, and is expanded below the said strips as at 3, to form a tight cover.

It is known that cardboard cases have been constructed for safety and protection, but the invention herein described

is applicable to cases of ordinary construction and to cases of various shapes other than the usual rectangular case.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. A packing case for bottled goods permanently closed at the bottom and with an upper edge of double thickness formed either by folding down and securing the edge of the case, or by securing battens on the inside around the mouth of the case, in which a flexible removable diaphragm is fitted into the upper part of the case to engage beneath the lower edge of the inner fold or the batten, the bottle necks passing through apertures in the said diaphragm which is of such nature that it may be flexed for removal so that the case may be unpacked.

2. A packing case for bottled goods as claimed in Claim 1, in which the diaphragm is modified by having its border dished up to engage with the lower edge of the fold or the batten.

3. A packing case for bottled goods as claimed in Claims 1 and 2, in which the holes in the diaphragm are radially slotted to form segments which hold the bottle necks when forced over the bottles substantially as shewn.

Dated this 13th day of June, 1933.
KENNETH J. MARDON.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1934.

Fig 1

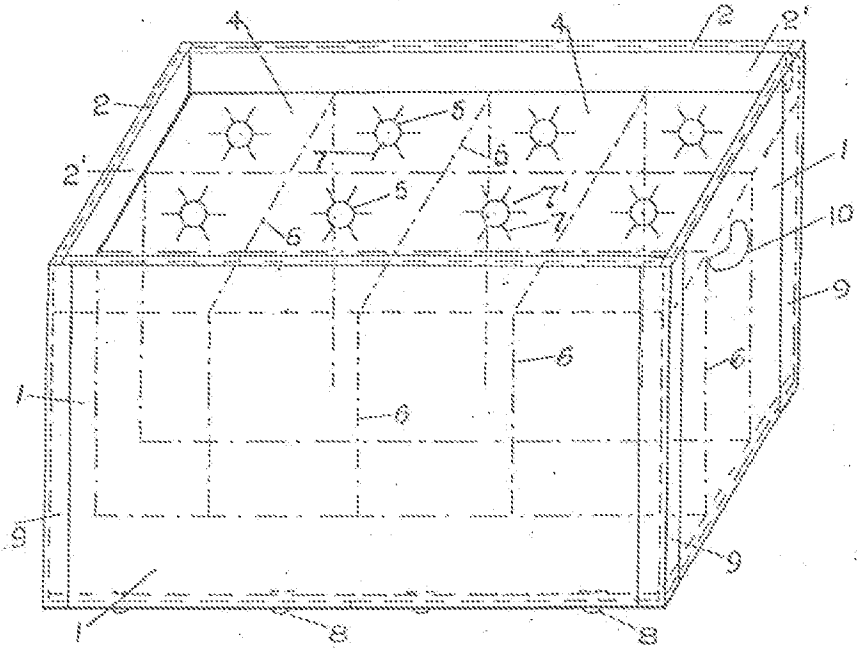
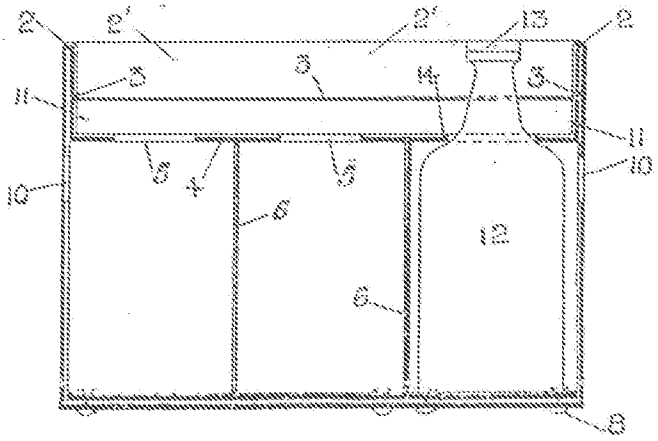
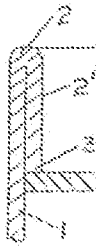


Fig 2





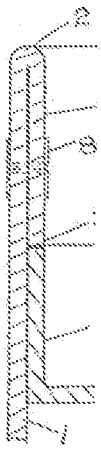


Fig 3

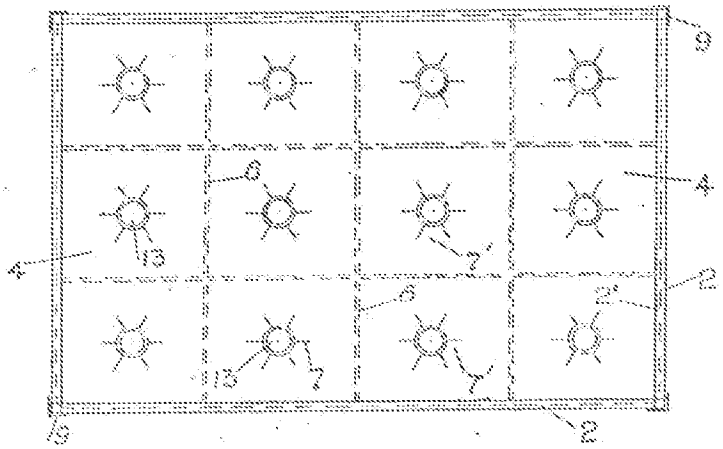


Fig 4

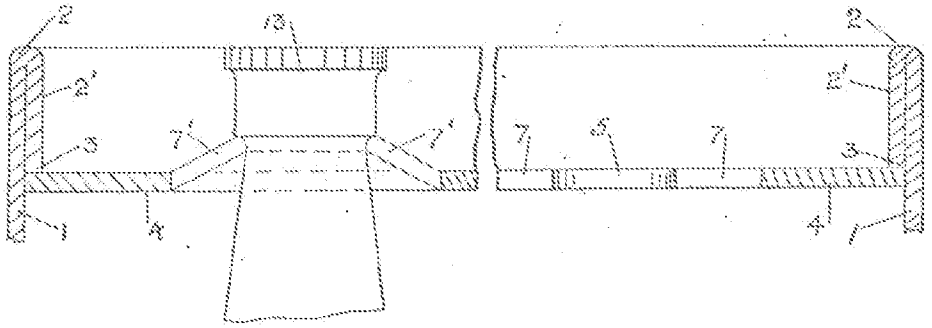
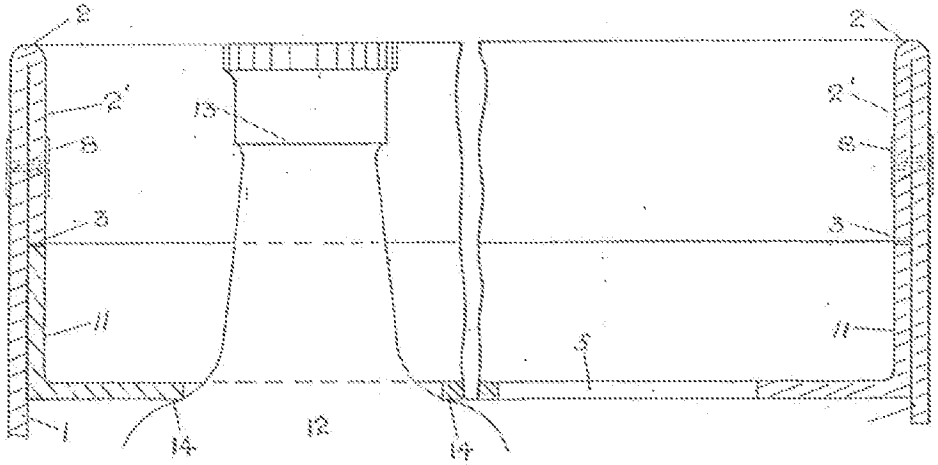


Fig 5



Melby & Sons, Photo-Litho.

608,811 COMPLETE SPECIFICATION

Fig 1

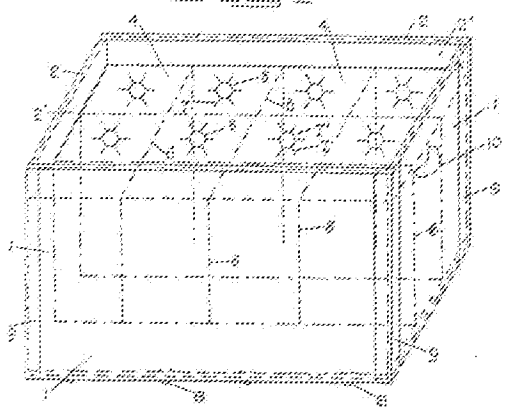


Fig 2

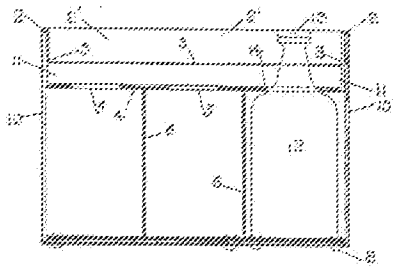


Fig 3

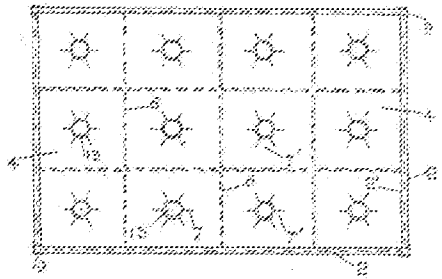


Fig 4

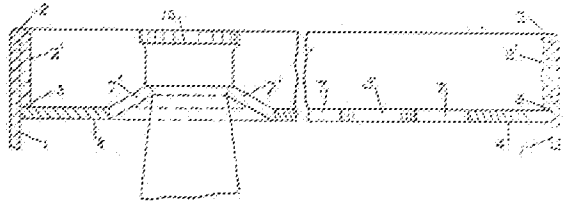


Fig 5